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Selected Speeches and News Releases

January 24 - January 30, 1991

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U.S. Department of Agriculture • Office of Public Affairs

MEDALLION SERIEDS HONORS NATIONAL FOREST SYSTEM CENTENNIAL

WASHINGTON, Jan. 24—The U.S. Department of Agriculture's Forest Service today announced the minting of a series of medals commemorating the 100th anniversary of the creation of the National Forest System.

The series of limited-edition medallions, entitled "The National Forest Centennial Collection," will depict mammals, birds, fish, trees and flowers found within national forests.

The medals will be offered for public sale in gold, silver and bronze. A portion of the proceeds will be returned to the Forest Service to assist in conservation work on the national forests.

The first medallion in the collection is planned for release in February. Others will follow at regular intervals during 1991—the National Forest System Centennial year.

"The centennial of the National Forest System is an event that the entire country can celebrate," said Forest Service Chief F. Dale Robertson.

The first national forest was designated in 1891. In this year's centennial celebration, the Forest Service is joining forces with public and private groups to increase public appreciation and enjoyment of the 156 national forests, 19 national grasslands and 71 experimental forests which comprise the 191-million-acre National Forest System.

The medallion series is being produced under an agreement between the Forest Service and the U.S. Coin Corporation of Bloomington, Minn. Prices will range from about $10 for a bronze medal to about $35 for a silver medal. The price of gold medals will vary with the market value of gold. For information about purchasing the medals, write U.S. Coin Corporation, 3001 Metro Drive, Minneapolis, MN 55425, Attn: Sheila Foreman.

Rob Hendricks (202) 447-2418

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USDA REPORTS PROGRESS IN REDUCING SALMONELLA IN EGGS

WASHINGTON, Jan. 24—A U.S. Department of Agriculture task force to control Salmonella enteritidis (SE) in table-egg laying flocks found 12 flocks in five states infected with this disease during 1990, a USDA official said.

"A preliminary count indicates that eggs were implicated in 18 of 66 reported human outbreaks of SE last year," said James W. Glosser, administrator of USDA's Animal and Plant Health Inspection Service. Tracebacks of those outbreaks where U.S. Public Health Service investigations were completed led to 12 flocks in Maryland, Pennsylvania, Alabama, Indiana and Delaware. Investigations to determine the probable food source are pending on another 6 of the 66 outbreaks.

Glosser said two-thirds of the human outbreaks of SE occurred in the Northeastern and mid-Atlantic states.

In recent years, studies have shown certain strains of SE may infect the internal organs of laying hens, passing the bacteria into the interior of eggs before they are laid.

"It may be that only a limited number of egg-laying poultry flocks are affected with these new invasive strains of SE," Glosser said. "By systematically locating these flocks and then ensuring that replacement birds are free of SE, we may control and eventually eliminate these strains."

In October 1990, APHIS field veterinarians began testing a sampling of laying hens sent to processing plants at the end of their egg-production cycle. Findings from this initial survey will yield important information that will help determine just how widespread SE is in U.S. laying flocks.

During 1990, the USDA task force reported that testing for SE and resulting restrictions on interstate shipping of affected birds involved some 5 million chickens, 2 million of which have already been voluntarily destroyed. More than 300 million table eggs from SE-positive farms were diverted away from the table-egg market to processing plants for pasteurization, a process that kills salmonella.

The task force also reported that through testing under the National Poultry Improvement Plan (NPIP), SE was discovered in the internal organs of birds from three breeding flocks. These flocks have been restricted from interstate commerce under NPIP and APHIS rules.

To assist in the effort to reduce the incidence of SE, the task force asks that anyone experiencing salmonellosis symptoms seek medical aid. The symptoms typically are fever, vomiting, abdominal cramps and diarrhea. Public health agencies can act only on reported cases—and many cases go unreported. In addition, the task force and the USDA's Food Safety Inspection Service (FSIS) are available to answer questions regarding SE and food safety.

The FSIS toll-free Meat and Poultry Hotline number is 1-800-535-4555. In the Washington, D.C., area the number is (202) 447-3333. The task force can be reached at (301) 436-4363. The address is: Salmonella Enteritidis Task Force, USDA, APHIS, Veterinary Services, Presidential Building, Room 205, 6525 Belcrest Road, Hyattsville, Md. 20782.

Margaret Webb (301) 436-7799

#

EGYPTIAN COTTON'S DISEASE-FIGHTING SECRET UNVEILED

WASHINGTON—A trio of U.S. Department of Agriculture scientists has cracked the mystery of Egyptian cotton's enviable resistance to Verticillium wilt disease.

The answer, says plant pathologist Marshall E. Mace, is the speed with which Egyptian cotton, Gossypium barbadense, can plug its own plant vessels and immobilize the disease-causing pathogen Verticillium dahliae before it spreads throughout the plant.

Mace, research chemist Robert D. Stipanovic and plant pathologist Alois A. Bell have been studying the cotton disease at the Southern Crops Research Laboratory in College Station, Texas. The lab is operated by USDA's Agricultural Research Service.

The scientists have found that once G. barbadense has trapped the pathogen, a natural antibiotic called desoxyhemigossypol, or dHG, goes into action, eventually killing the invader. The Egyptian plant actually produces four antibiotics in its own defense. But dHG is the most important because it is water-soluble and can move in the plant to reach the pathogen.

The same vessel-plugging response is seen in Gossypium hirsutum, the type of cotton favored by American farmers. But the response is so much

slower that by the time dHG arrives on the scene, the pathogen has already radiated throughout the plant.

"Very large amounts of dHG actually will accumulate in G. hirsutum," said Mace. "But if you don't rapidly restrict the spread of the pathogen, it's irrelevant."

Despite the pathogen-fighting capabilities of the Egyptian-cotton, U.S. farmers don't want to switch to G. barbadense because G. hirsutum yields are higher and the plants are adapted to wider geographic areas of growth, Mace said.

The USDA scientists have attempted to breed the quick response of the Egyptian cotton into G. hirsutum but so far, their efforts have failed. "The first-generation hybrid looks pretty good, but you lose the resistance in later generations," Mace said.

The scientists are busy studying Acala lines of G. hirsutum cotton that has tolerance to the disease pathogen. "If they're resistant through the same mechanism as G. barbadense, plant breeders might want to try to transfer this into other hirsutum cottons," Mace said.

A report on the scientists' discoveries about G. barbadense appears in the latest issue of "Agricultural Research" magazine, the monthly publication of the Agricultural Research Service.

Sandy Miller Hays (301) 344-4089
Issued: Jan. 24, 1991

#

USDA SCIENTISTS FIND TOOL TO STUDY MUSCLE MOVEMENT

WASHINGTON—A natural chemical produced by some fungi could serve as a tool for understanding how calcium is regulated inside skeletal and cardiac muscle, a U.S. Department of Agriculture scientist said.

USDA scientists studying the muscle disease in animals believe their efforts will benefit humans. The scientists believe some muscle diseases in farm animals can occur if there is a disruption of the regulated flow of calcium in and out of muscle cells.

But Ronald T. Riley, a research pharmacologist with USDA's Agricultural Research Service, found that this natural chemical, called cyclopiazonic acid (CPA), changes the way calcium moves into and out of muscle cells.

The precise regulation of calcium inside muscle fiber is critical for the muscle—such as a human heart—to properly function, said Riley.

"It turned out that CPA is a highly specific inhibitor of one special enzyme that's responsible for the active movement of calcium within muscle fiber," said Riley, who is with ARS' Toxicology and Mycotoxin Research Unit in Athens, Ga. "Every muscle movement is dependent upon the relaxation and contraction of muscle fiber. It is now possible to study whether or not alterations in this enzyme play a role in muscle diseases."

Riley's research has attracted the attention of medical scientists at the State University of New York at Syracuse, who are testing CPA as a potential medical tool for humans, said Norbert W. Seidler of the university. CPA is produced by certain species of the fungi Penicillium and Aspergillus.

CPA could serve as a model for research on a whole new class of chemicals designed for drug treatments, he said. These treatments would be used against animal diseases where there is a breakdown of the regulation of calcium within the cell.

"For example, the heart is a muscle and its contraction and relaxation is what keeps blood flowing through our bodies," he added. "In the case of the heart, if calcium is not released or taken in at the precise time, our blood would not flow properly through our arteries and veins. That's also true in livestock."

In experiments with rat and mouse cell tissue, Riley found that CPA accumulated in skeletal muscle and caused alterations in both the structure and function of the muscle.

"When I first looked at the structure of CPA, it appeared that it would have some effects on cell membrane function, he said. "That has been borne out in later research."

Cell membranes are vital because they act as barriers to the unregulated movement of nutrients or essential chemicals, like calcium, within the cell. The proteins within the membranes function as guards to regulate what can cross the border, he said.

The enzyme system that transports calcium is inhibited by CPA and is present in most if not all cells, Riley said. Because calcium is an important regulator of cell function, the processes that control calcium content within the cell are extremely vital to the well-being of the cell. This is especially true in muscle cells, which are rich in this particular enzyme, he said.

Because CPA only stops calcium, this finding allows researchers to sepparate the processes responsible for calcium movement and the roles the calcium transport enzyme plays in regulating the contraction and relaxation of skeletal and cardiac muscles, Riley said.

"If you want to know how the engine in your car works, you don't just open the hood and watch the engine run," he said. "You individually check the operation of each component."

Bruce Kinzel (301) 344-2739
Issued: Jan. 25, 1991

#

DEEP FROZEN APPLES—NOT JUST PIE IN THE SKY

WASHINGTON—U.S. Department of Agriculture scientists are seeing how well a Siberian crabapple takes to real winter cold—say minus 196 degrees C.

The Siberian crabapple is one of 48 varieties being frozen in liquid nitrogen in a 25-year experiment conducted by scientists with USDA's Agricultural Research Service.

Their goal is to preserve the genetic diversity of apples, but at less cost and using less land.

"We are hoping to find a method for preserving apple varieties that doesn't rely on the land and labor needed to maintain an orchard," said Philip L. Forsline, curator of the apple collection at the ARS National Germplasm Repository in Geneva, N.Y. He said the repository is now home to more than 3000 different examples of apples.

Forsline and researchers Cecil Stushnoff and Leigh Towill at the agency's National Seed Storage Laboratory in Fort Collins, Colo., are cooperating in the studies. Fort Collins scientists are experts in using liquid nitrogen to preserve plant seeds and stock.

In 1988, the lab researchers began placing apple buds in liquid nitrogen at minus 196 degrees C. Some buds are removed from the liquid nitrogen each year to test if they can be restored to natural growth.

For apple buds from Geneva that have spent one year in deep freeze storage, Forsline said, results have been varied—100 percent viability for some varieties, 10 percent for others. On the average, about 50 percent of the buds are viable, he said.

"Some varieties of apples take better to cryogenic storage," Forsline said. "That Siberian crabapple is naturally more cold hardy. It did much better than ones that are not as cold hardy."

Preserving diversity is essential, he said. Domestic apples have a narrow genetic base, having been selected originally for large fruit and not disease or insect resistance. Other apples in the repository such as wild varieties may have these missing genetic traits.

"The genes in one of the varieties preserved in the repository may be the answer to some problem we have to face in the future," he said.

In the cold storage experiments, buds are not just taken randomly. The buds are removed from trees gone dormant for the winter, dehydrated and then stored in the liquid nitrogen.

At what point during winter dormancy is it best to take the buds has been a major question. Forsline has tried harvesting buds early in December, after the coldest day of the winter in January and in late February.

"We found that taking the buds in December, before the tree's physiological need for winter rest is satisfied, results in a better survival rate in liquid nitrogen storage," he said.

Usually, he said, the Geneva repository grows four samples of each variety in the collection—two on conventional root stock and two on dwarf apple root stock.

But as the apple collection has grown, it has become harder to find the land and labor to maintain the orchards, let alone expand them as more varieties are added, Forsline explained.

If long-term freezer storage proves a success, he said, it will significantly cut down on the cost of storing each accession and allow expansion of the germplasm collection on much the same budget.

"But you need backup specimens," he said. "Keeping just one or two of a type leaves us open to losing a variety to disease or insects or just plain bad luck. Dormant buds in liquid nitrogen would allow us to efficiently backup what we have in the orchards."

Kim Kaplan (301) 344-3932
Issued: Jan. 28, 1991

#

USDA REVISES REGULATIONS FOR EGGS AND POULTRY AFFECTED BY SALMONELLA

WASHINGTON, Jan. 29—The U.S. Department of Agriculture is issuing a final rule amending its interim regulations on poultry disease caused by Salmonella enteritidis (SE) to help control the spread of SE in commercial egg-type poultry flocks and prevent contaminated eggs from reaching consumers. "The amendments ensure that SE will be effectively controlled while minimizing economic losses and hardship to affected producers," said James W. Glosser, administrator of USDA's Animal and Plant Health Inspection Service.

During the past three years, human infections caused by SE have become a serious public health concern. A number of outbreaks have been associated with "Grade A" shell eggs that were improperly handled. The illness can be severe in the very young or the very old and in people with weakened immune systems.

To control SE in egg-type chicken breeding flocks and in egg production flocks implicated in human outbreaks of salmonellosis, APHIS published an interim rule (Federal Register, Feb. 16, 1990) establishing a system to study and test implicated egg-production flocks.

Under the rule, SE-affected premises undergo required testing of environmental, blood and internal organ samples for evidence of the disease. The rule prohibits the interstate transportation of eggs, birds or associated materials that come from flocks affected with SE.

The new amendments more precisely define various components of egg-production poultry premises. A poultry "house" is now defined as a component of the larger "flock" unit. This means that, within a production premises where SE has been found in only some houses, eggs from unaffected houses can be sold as table eggs in interstate commerce, provided the house is sufficiently segregated from other flock components to prevent the spread of disease.

This distinction will allow affected producers greater flexibility for continued production and marketing while concentrating control efforts on those poultry houses that are affected with SE, Glosser said.

Another amendment stipulates if any breeding flock is found to be SE positive through internal organ sampling, all birds originating in it must be traced forward to the egg-production flocks that received them. These egg-production flocks will then automatically become study flocks so that APHIS officials can determine if SE has been introduced.

Under the interim rule, investigations of breeding flocks were based on isolation of SE from environmental samples rather than from internal organs. This change will allow more effective use of resources to monitor those egg-production flocks that present a high risk through prior contact with contaminated poultry houses.

The amendments further refine the requirements for cleaning and disinfecting SE-contaminated houses. The final rule also amends the testing procedures for releasing an infected flock or a house in an infected flock from interstate restrictions once APHIS has determined it is SE free.

Because hard cooking (boiling) is available at some egg-processing plants and is as effective as pasteurization in destroying SE organisms, the final rule revises restrictions on interstate movement of eggs from test flocks or infected premises to provide for this option as long as the processing is done at USDA-approved plants.

Controls have been added to require pasteurization of eggs diverted from human consumption if they are to be used for animal feed.

The final rule is scheduled for publication in the Jan. 30 Federal Register and is effective on publication.

Margaret Webb (301) 436-6573

#

PROPOSALS SOUGHT FOR PECAN, LIME, AND MUSHROOM PROMOTION AND RESEARCH PROGRAMS

WASHINGTON, Jan. 29—The U.S. Department of Agriculture today announced it is seeking proposals for national promotion and research programs for pecans, limes and mushrooms.

Daniel D. Haley, administrator of the USDA's Agricultural Marketing Service, said these programs, authorized under the 1990 Farm Bill, would be designed to expand domestic and foreign markets for pecans, limes and mushrooms. The programs would be financed by assessments on those commodities, to be paid by domestic first handlers and importers.

The programs would be operated by administrative bodies appointed by the secretary of agriculture from nominations originating in each industry. The pecan board would consist of 15 members; the lime board, 11 members; and the mushroom board, 4 to 9 members.

Following receipt of all proposals, a proposed program for each commodity will be published in the Federal Register for public comment. After review of any comments submitted, USDA would issue a final program for each commodity, Haley said.

For mushrooms, a final program would first require approval by a majority, both by number voting and volume voted, in a producer and importer referendum. For pecans and limes, a program would be followed by a referendum within 24 months to determine if it should be continued.

Announcement of the solicitation for proposals will appear as a notice in the Jan. 30 Federal Register. Proposals for initial programs should be sent in triplicate to the docket clerk, Fruit and Vegetable Division, AMS, USDA, rm. 2525-S, P.O. Box 96456, Washington, D.C. 20090-6456. They must be received by March 1.

USDA currently oversees similar programs for beef, cotton, dairy, eggs, honey, pork, potatoes, watermelon, and wool, lamb and mohair. Each was designed and initiated by the affected industry to advance the position of their products in the marketplace. AMS monitors the programs for USDA.

Additional information regarding the programs and copies of the Federal Register notice may be obtained from the Fruit and Vegetable Division, room 2525-S, AMS, USDA, Washington, D.C. 20250; telephone (202) 245-5172 for mushrooms (Richard Schultz); and (202) 475-3916 for limes and pecans (Jim Wendland).

Clarence Steinberg (202) 447-6179

#

YEUTTER APPOINTS NATIONAL PORK PRODUCERS DELEGATE BODY

WASHINGTON, Jan. 29—Secretary of Agriculture Clayton Yeutter today announced the appointment of 168 pork producers and five importers to the national Pork Producers Delegate Body for a one-year term.

The secretary selected the appointees from nominees submitted by state pork producer associations and importer groups. Representation on the delegate body is chiefly proportional, based on annual net assessments collected on sales of domestic hogs within individual states, with a minimum of two producers authorized from each state. States have the option of not submitting nominees. Alaska and Massachusetts submitted only one nominee each this year, and New Mexico and Vermont submitted none.

Imported pork and pork products also are assessed, and pork importers have five representatives on the delegate body.

Delegates meet annually to recommend the rate of assessment, to determine the percentage of assessments that will go to state associations, and to nominate hog producers and importers to the 15-member National Pork Board.

Established under the Pork Promotion, Research, and Consumer Information Act of 1985, the Delegate Body and Pork Board have implemented a national program designed to improve the pork industry's position in the marketplace. The program is funded by a mandatory assessment currently of one quarter of one percent of the market value of each hog sold in the U.S. and an equivalent amount on imported hogs, pork, and pork products. Assessments began Nov. 1, 1986.

Pork producers appointed by state are: ALABAMA—Waymon J. Buttram, Bernard D. Williams; ALASKA—Scott R. Miller; ARIZONA—Bernard V. Unrast, Lawrence W. Beck; ARKANSAS—John P. Belts, Larry D. Metz, Wayne R. Jorgensen; CALIFORNIA—Jacque A. Dallaire, Albano P. Fernandes II; COLORADO—Arthur J. Schmalz, Dennis G. Schneider; CONNECTICUT—John T. Breakell, Karol R. Trojanoski, Jr.; DELAWARE—Dale J. Ockels, Lambert J. Slaubaugh;

FLORIDA—Stephen D. Basford, Cleveland R. Selph; GEORGIA—Harry L. Kemp, Roy Herrington, William L. Adams; HAWAII—Norman N. Oshiro, David K. Oshiro; IDAHO—Bradley K. Thornton, Michael L. Crea; ILLINOIS—Robert I. Brauer, Charles R. Baum III, Lynn R.

Shimmin, Paul L. Essington, John A. Kellogg, Gordon R. McClure, Wayne A. Schlueter, Keith A. Bachman, James M. Brazinski, Roger C.G. Schaefer, Jerry D. King;

INDIANA—John D. Hardin, Jr., Steven R. Nichols, Albert W. Drake, Robert L. Huber, Danita S. Rodibaugh, Larry J. Gottschalk, Richard D. Ward, Jay L. Hawley, William E. Whitehead; IOWA—Norlin C. Gutz, Patricia A. Trask, Thomas J. Floy, Gerald F. Becker, Leo J. Brincks, Rozalyn A. Boyer, Tim L. Kapucian, Glen L. Keppy, James L. Ledger, Verle L. McGraw, Rex E. Hoffman, Donald D. Gingerich, Craig L. Olson, Jon D. Caspers, Helen E. Pollock, Harlan A. Meyer, Esther J. VerMeer, James A. Meyer, Roger M. Altenhofen, Joan R. Nossaman, Oliver E. Moody, David J. Boyd, Joseph L. Fahn, Douglas D. Rutter, Teresa A. Simmons;

KANSAS—Gregory W. Roberts, Victor L. Krainbill, Dennis D. Hupe, Merlin L. Dennis; KENTUCKY—Maurice W. Heard, Michael J. Finney, Gene Cooper; LOUISIANA—Robert L. Fletcher, Jr., Ralph T. Oldham; MAINE—Sally N. Smith, Charlie F. Kenney, Jr.; MARYLAND—Howard A. Williams, Steven F. Ernst; MASSACHUSETTS—Matthew J. Parsons; MICHIGAN—Robert D. Bloomer, James P. Clover, Philip A. Leipprandt, Larry J. See;

MINNESOTA—Robert E. Balgeman, Vernell J. Draheim, Soneva M. Goering, Dennis C. Pieske, Halvor D. Pearson, Gerhard T. Resler, Charles F. Woehler, Karl H. Johnson, Jeffery D. Bauman; MISSISSIPPI—Allan R. Kent, Thomas O. Buford, Jr.; MISSOURI—William T. Grider, John S. Price, James H. Phillips, James H. Loethen, Richard L. Clemens, Steven D. Oetting; MONTANA—Duane G. Braaten, Melville J. Jackson;

NEBRASKA—Arnold E. Stuthman, Stephen A. Mohling, Robert L. Ruggles, Waldon H. Stigge, Rodney C. Keil, Kent L. Gansebom, Leslie R. Weber, George L. Baumert; NEVADA—Peter K. Towne, Cheryl A. Towne; NEW HAMPSHIRE—Edmond G. Merrill, Fukiko A. Merrill; NEW JERSEY—Kenneth C. Allen, Wallace H. Bradway; NEW YORK—George A. Heidemann, Calvin M. Brown; NORTH CAROLINA—Allan L. Baucom, Marion R. Howard, Milton J. Humphrey, Jr., Whitley W. Stephenson, Randall D. Stoecker, Jack H. Winslow, Jr.;

NORTH DAKOTA—Bradley R. Nasset, Daniel J. Haag; OHIO—Robert M. Barr, Keith L. Kemp, Kenneth H. Stiverson, Steven L. Sollars; OKLAHOMA—Veron L. Whitnah, Dan L. Looper; OREGON—

Howard V. Wurdinger, Loretta A. Kaser; PENNSYLVANIA—Herbert K. Schick, Samuel D. Elkin, David A. Reinecker; RHODE ISLAND—Kenneth L. Andrews, Sr., John Moniz; SOUTH CAROLINA—William F. Strickland, Charles L. Shuler; SOUTH DAKOTA—Michael M. Olson, James E. Dailey, Chester T. McManus, Glenn A. Muller; TENNESSEE—James R. Brooks, Ed R. Lidvall, Joe L. Christopher;

TEXAS—Donald L. Berend, Charles R. Wilson; UTAH—Rick J. Bell, Jon R. Arnold; VIRGINIA—Hugh A. French, Donald H. Horsley; WASHINGTON—Gerald E. Mitchell, Mark A. Street; WEST VIRGINIA—Steven C. Teufel, Randy E. Horst; WISCONSIN—Kenneth E. Congdon, Daniel B. Fredericks, Robert L. Uphoff; WYOMING—James R. Lerwick, Nicholas P. Schroeder.

Importers appointed to the delegate body are Henry Greenebaum (New York), Leon M. Tanzer (New York), Robert F. Bauer (New York), Theodore T. Bodnar (Florida), and Robert S. Gellert (New Jersey).

Clarence Steinberg (202) 447-6179

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USDA ANNOUNCES 1991 RICE PROGRAM PROVISIONS

WASHINGTON, Jan. 30—Secretary of Agriculture Clayton Yeutter today announced a required Acreage Reduction Program of 5 percent for the 1991 crop of rice.

Other provisions announced today are:

—The established target price will be $10.71 per hundredweight.

—The national average loan and purchase rate will be $6.50 per hundredweight.

—The differential between whole kernel milled rice price support rates is established at $1.00 per hundredweight, unchanged from the 1990 crop level.

—Whole kernel milled rice price support rates are $10.74 per hundredweight for long grain and $9.74 for medium and short grain rice. The broken kernel rate for all rice classes is $5.37 per hundredweight.

—Producers will not be required to purchase marketing certificates as a condition of repaying a rice price support loan at a reduced rate.

—The inventory reduction program will not be implemented.

—Advance deficiency payments may be requested at signup and will be 40 percent of the estimated deficiency payment rate of $3.76 per hundredweight.

Robert Feist (202) 447-6789

#

PROBES MAY BOOST PLANT BREEDING EFFORTS INTO DOUBLE-TIME

WASHINGTON, Jan. 30—Spotting plants with desirable genetic traits, such as disease resistance, could someday be done in a fraction of the time required now, a U.S. Department of Agriculture scientist says.

Using Restriction Fragment Length Polymorphism, a process developed in the early 1980s, researchers try to find a match between pieces of DNA—genetic material—from a plant of known characteristics and a plant about which little is known.

"With RFLP, a scientist can accomplish in two years what it might take 10 years to do with conventional plant breeding," said geneticist Keith F. Schertz, who works for USDA's Agricultural Research Service at College Station, Texas.

"This doesn't replace plant breeding, but it narrows the field in which breeders must search for plants with certain characteristics."

Schertz has been using RFLP for the past two years to learn more about various lines of sorghum, including whether a desirable trait has been passed from a parent plant to its crossbred offspring. He is cooperating on the project with a team of Texas A&M University scientists led by Gary Hart and John Mullet.

"We're at the point of having identified lines that differ in their ability to match with these pieces of DNA, which are used as identification probes," he said. "Now we have the offspring of those lines, and we're studying the offspring to see how they match to the different probes."

A match indicates that at least some of the genes from the familiar plant are also in the less familiar plant, although the genes in common are not necessarily the ones that cause the desirable characteristic.

Although RFLP can indicate a match between genes, researchers still must map precisely which genes are associated or "linked" with the various DNA probes.

"That will take a while, but not a long while," Schertz said. "We should have some useful tools within the next five to six years."

Other scientists have used RFLP in human research since the early 1980s, and in crop research for the past five years, including work on corn, tomatoes and rice. Enzymes are applied to DNA, taken from plants in the case of crop research. The enzymes cut the DNA molecules at certain places to create fragments of different lengths.

"Each fragment is linked with certain genes," Schertz explained. "You may not know what genes are linked with the fragment from the plant you're studying. But you can take a probe made from DNA from a plant you do know something about, and see if they match.

"For example, say you have one plant that's resistant to a disease, and its DNA responds to three DNA probes, which we'll call Probe 1, Probe 3 and Probe 7," he explained. "Another plant that's resistant to that same disease responds to probes 3, 7 and 9.

"Now, say you want to know whether a third plant is resistant to the disease in question, and you get a response from it to Probes 3 and 7. This indicates it shares some of the same or similar genes found in the two plants that you already know are disease resistant—and perhaps the genes it has in common with them are the ones that control disease resistance."

RFLP could speed the search for crops with potential for industrial application, Schertz noted.

"This can be used to find and select genes for any characteristic, including those that might be useful to industry," he said.

The technique also eliminates environmental interference in the search for plants with certain traits, Schertz added.

"Under ordinary circumstances, without RFLP, you might have plants that you want to check for resistance to a disease that has been present in a specific field," he said. "You can put your plants out there to check them, but the disease may not show up in that field that year. By use of RFLP selection to identify sources of disease resistance, a breeder would not have to depend on the disease being present."

Sandy Miller Hays (301) 344-4089

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FOREST SERVICE ANNOUNCES WILDERNESS EDUCATION AWARD WINNERS

WASHINGTON, Jan. 30—F. Dale Robertson, chief of the U.S. Department of Agriculture's Forest Service, to announced the winners of the 1990 National Wilderness Education Awards.

The awards, co-sponsored by the Forest Service and the Izaak Walton League, honor public and private-sector employees and organizations for materials and programs produced to educate the public about the importance of wilderness and its conservation. 1990 award-winning projects range from a children's coloring book to a 3-week college course on wilderness.

Robertson said the awards encourage wilderness education and increase public awareness of the importance of using wilderness areas wisely so that future generations of visitors and researchers can experience and study lands essentially unchanged by human activity.

"Americans are enjoying wilderness opportunities in significantly increasing numbers," Robertson said. "With more than 11 million visitor-days use of the National Wilderness Preservation System last year, it is important that people learn to care for these areas even as they are enjoying them. These award-winning educational efforts help Americans do just that."

Award criteria include uniqueness of materials, size and variety of audiences reached, effectiveness in changing behavior to protect wilderness resources, and commitment to wilderness education.

First place winners of 1990 Wilderness Education Awards under the indicated categories are:

For wilderness education materials—

Public Sector - Judith Fraser and Jon Herman (Cle Elum Ranger District, Wenatchee National Forest, Cle Elum, Wash.) for the coloring book "Children Guide to Caring for Nature's Wonders." The book employs humor to communicate the concept that an individual's actions in the wilderness can help conserve natural habitat and preserve wilderness values.

Private Sector - San Juan National Forest Association (Durango, Colo.) for financial support and marketing of the Wilderness Ranger Cookbook, which provides information on low-impact camping techniques and wilderness values in addition to recipes from wilderness rangers.

For wilderness education programs—

Public Sector - Michael Wilson (Stevensville Ranger District, Bitterroot National Forest, Stevensville, Mont.) for an educational course that targets school children in grades 5-7 and wilderness user groups. The program offers students hands-on experience in assessing how their behavior and human influence can protect or impact wilderness resources.

Private Sector - Thomas Fleischner and Douglas Hulmes (Prescott College, Prescott, Ariz.) for their three-week wilderness orientation course, which provides students with field experience and an overview of wilderness issues, including the historical role of wilderness, the intent of the Wilderness Act, wilderness skills and low-impact camping.

The course is taken by a substantial number of people who provide wilderness education to others.

Marty Longan (202) 475-3777

#

FSIS SEEKING VOLUNTEER PLANTS FOR IN-PLANT TESTING OF HACCP SYSTEM

WASHINGTON, Jan. 30—The U.S. Department of Agriculture's Food Safety and Inspection Service is seeking volunteer meat and poultry plants to participate in trial implementations of the Hazard Analysis and Critical Control Point (HACCP) system.

FSIS is studying the HACCP system as an inspection tool to identify and prevent food safety hazards during meat and poultry production.

FSIS Administrator Dr. Lester M. Crawford said FSIS will hold a series of workshops this year at which industry representatives will develop plans for in-plant applications of the HACCP system to specific types of meat and poultry production, including poultry and swine slaughter, production of refrigerated meat and poultry products, and production of cooked sausage and fresh ground beef.

"The HACCP system is recognized worldwide as the most effective way to ensure production of safe food," said Crawford. "These in-plant applications of HACCP plans for meat and poultry products developed at the workshops will help us implement HACCP systems that ensure public health protection and are practical for industry use."

The HACCP system is a specialized method of analyzing a process to determine critical points where hazards are most likely to occur. As applied to meat and poultry processing and slaughter, the HACCP method is used to pinpoint those steps in the process where the safety of the products may be compromised. Once these points are identified, preventive measures and inspection are focused on these points to ensure the safety of the products for consumers.

Representatives of plants interested in volunteering must submit a letter by Feb. 15 to FSIS requesting participation. Previous experience in HACCP-based operations is not required for a plant to be eligible for participation.

In the letter requesting participation, plant representatives must provide: the plant name, address, phone number, and USDA establishment number; the type of generic HACCP plan the plant is volunteering to test; any affiliations with national or local trade associations; indication of product volume; current inspection system(s) being used; and hours of operation and number of shifts.

Requests to participate and questions about the HACCP study should be submitted to: Catherine M. DeRoever, Director, Executive Secretariat, Food Safety and Inspection Service, USDA, Room 3175-S, Washington, D.C. 20250; telephone (202) 447-9150.

Requests for technical information on the FSIS HACCP study should be submitted to: Dr. Wallace I. Leary, Director, HACCP Special Team, Food Safety and Inspection Service, USDA, Room 0114-S, Washington, D.C. 20250; telephone (202) 245-5087.

FSIS and its 9,000 employees are dedicated to ensuring meat and poultry products are safe, wholesome and accurately labeled.

Sharin Sachs (202) 447-9113

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SUPPORT LEVELS, EXPORT EDIBLE SALES POLICY ANNOUNCED FOR 1991 CROP PEANUTS

WASHINGTON, Jan. 30—The U.S. Department of Agriculture today announced the national average support level for 1991 crop quota peanuts will be $642.79 per short ton, compared with $631.32 for the 1990 crop.

The following provisions were also announced:

—The national average support level for additional peanuts will be $149.75 per short ton, unchanged from the 1990 crop.

—1991 crop additional peanuts owned or controlled by USDA's Commodity Credit Corporation will be sold for export edible use at no less than $400 per ton, unchanged from the 1990 crop.

—The marketing assessment under the Omnibus Budget Reconciliation Act of 1990 will be 0.1606975 cents per pound for quota peanuts and 0.0374375 cents per pound for additional peanuts on both growers and buyers for a total of 0.3213950 cents per pound for 1991 crop quota peanuts and 0.0748750 cents per pound for 1991 crop additional peanuts.

Producers will be responsible for payment of both the producer and grower assessment where they market the peanuts to consumers through wholesale or retail outlets, or outside the continental United States.

The Agricultural Act of 1949, as amended, requires that the national average support level for the 1991 crop of quota peanuts reflect any increase in the national average cost of peanut production for the preceding year, excluding any change in the cost of land. This law also provides that the quota support rate for the crop may not exceed the support rate for the preceding crop by more than 5 percent.

The national average support level for 1991 crop quota peanuts was increased from the 1990 level of $631.47 per short ton since the cost of producing 1990 crop peanuts was greater than the cost of producing 1989 crop peanuts.

The price support level for additional peanuts must be set at a level which ensures no loss to CCC from sales or disposal of the peanuts. In determining this level, CCC considers the demand for peanut oil and peanut meal, the expected prices for other vegetable oils and protein meals and the demand for peanuts in foreign markets. The price support levels are subject to quality and other adjustments.

Robert Feist (202) 447-6789

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USDA ANNOUNCES 1991-CROP BURLEY TOBACCO PROGRAM

WASHINGTON, Jan. 30—The U.S. Department of Agriculture announced today provisions of the 1991 burley tobacco program.

—The national marketing quota for the 1991 crop is 726 million pounds, up from the 1990 quota of 602.3 million pounds and is based on the following:

	Million Pounds
—Purchase intentions of domestic cigarette manufacturers	510.5
—Unmanufactured exports (3 yr. average)	167.6
—Reserve stock adjustment	47.9
—Discretionary adjustment	0

—The support level for the 1991 crop is $1.584 per pound up 2.6 cents from 1990.

—For each farm, the 1991 basic quota will increase about 20.7 percent from 1990.

—The effective quota is expected to be about 875 million pounds or 134 million above 1990.

The marketing assessment under the Omnibus Budget Reconciliation Act of 1990 will be .792 cents per pound, on both growers and buyers, for a total of 1.584 cents per pound for the 1991 crop of burley tobacco.

—The no-net-cost program assessment will be announced later. In a February 1989 referendum, producers approved quotas for the 1989 through 1991 crops. Burley tobacco is grown in Kentucky, Tennessee and surrounding states.

John C. Ryan (202) 447-8207

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